ABSTRACT OF THE DISCLOSURE

The present invention is directed to methods and systems for improving the operation of transmissions for automotive vehicles, and in particular the "factory installed" automotive transmissions installed by the original automobile manufacturer. The methods and systems in accordance with the present invention modify both the structural components and the hydraulic circuitry of the original automotive transmissions to enhance the operation of the modified transmissions. The improvements to the operation of the "factory installed" transmissions, and in particular the Allison transmission, include modification of the flow control valve to increase line pressure during lockup; modifications to the rotating clutch module to increase the torque held by the clutch and prevent clutch slippage, and modifications to the trim valves to adjust the pressure applied to the clutches for more efficient operation of the transmission.